07.3–140 Checking decel shutoff

Test values

Speed km/h	Engine speed 1/min without refrigerant compressor	with refrigerant compressor
> 35	> 1100	> 1300

Conventional tools

Revolution counter, volt-ohmmeter

Digital multimeter with means for measuring AC (for impulse transmitter test)

Note

Since decel shutoff requires engine speed impulses and driving speeds, the respective component can be tested only on a dynamometer or on the road.

A function test of impulse transmitter can also be made by means of workshop oscilloscope Bosch MOT 300/400, 202 and SUN 1080, 1019, 2110 in position "Primary, special "or "Generator test".

Testing on dynamometer

Remove air cleaner.

Run on dynamometer at approx. 70 km/h in 4th speed or driving position "D". Release accelerator pedal, air flow sensor plate will move into zero position. As soon as combustion starts again at approx. 1100/min or approx. 1300/min with refrigerant compressor, the air flow sensor plate will move into idle position. Check decel shutoff valve and its activation, if required.

Testing without dynamometer (road test)

Run engine at idle.

Test decel shutoff valve (30).

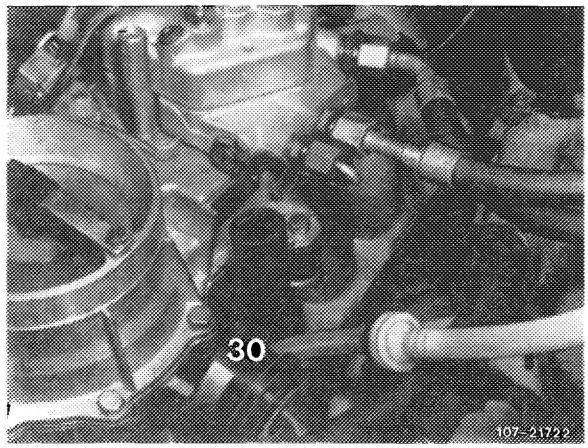
Test activation of switchover valve (43a).

Test speed-dependent control.

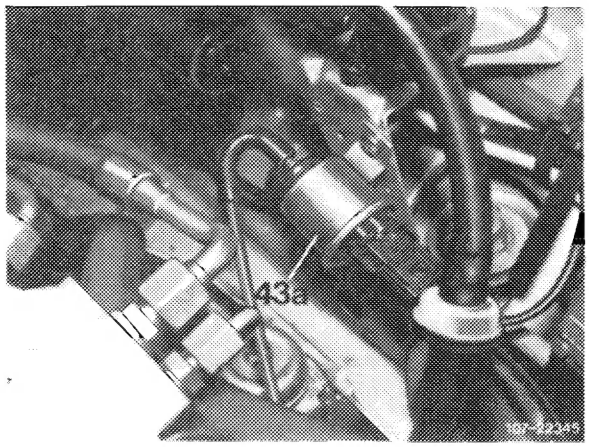
Testing

Testing decel shutoff valve (30)

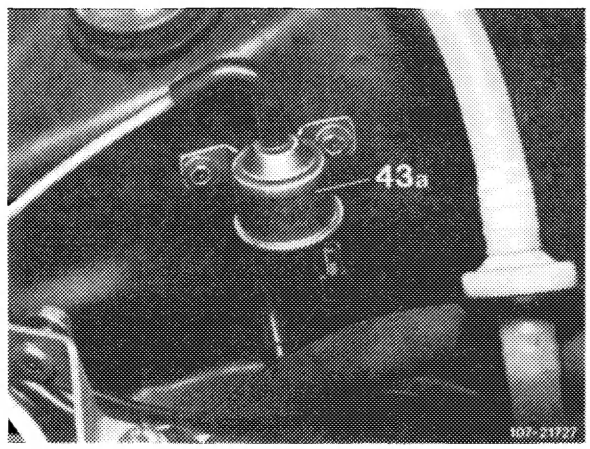
1 Run engine at idle. Pull off vacuum lines on switch over valve (43a) and connect with each other. Decel shutoff valve (30) will then open and the engine should stop.
If engine keeps running, check vacuum lines. Intake manifold vacuum should be available at idle. If vacuum is available, replace decel shutoff valve (30).



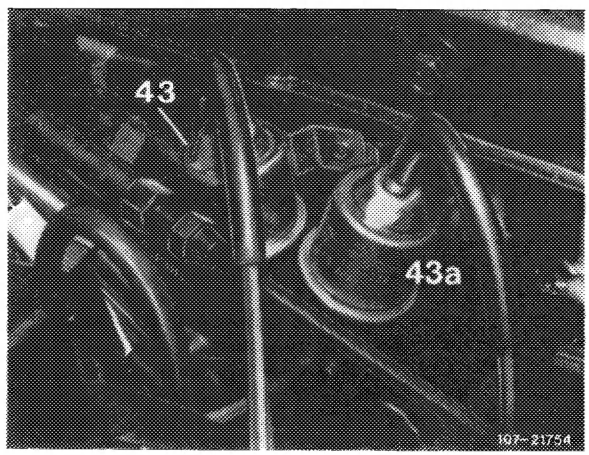
Layout switchover valves (43a)



Model 107



Model 123

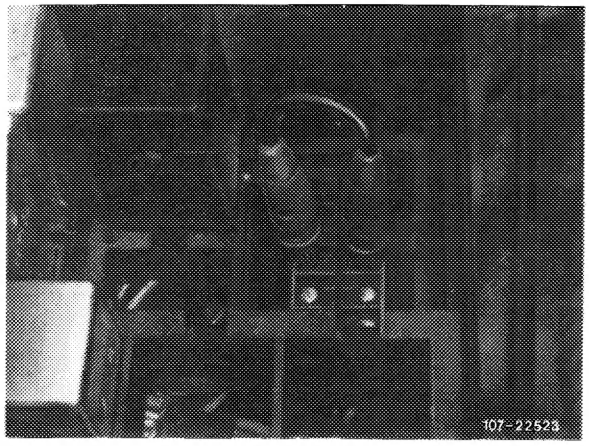


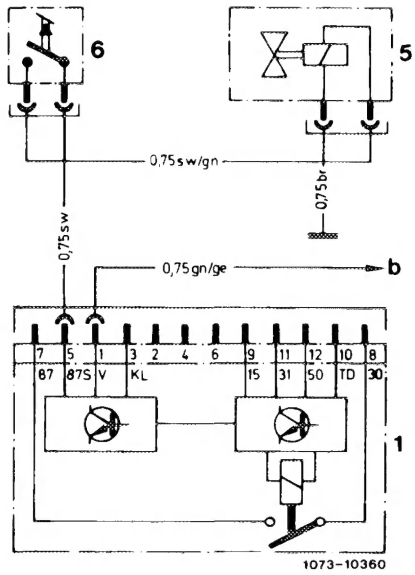
Model 126
43 Switchover valve air conditioning (identification: green cap)
43a Switchover valve decel shutoff (identification: gray cap)

Checking activation of switchover valve

2 Pull off fuel pump relay. Bridge jack 7 (terminal 87) and 8 (terminal 30), so that fuel pump will run. Start engine, connect jack 5 (terminal 87 S) of coupler with battery voltage. Engine should now stop.

If engine does not stop, check microswitch (3 or 6) or switchover valve (43a or 5).





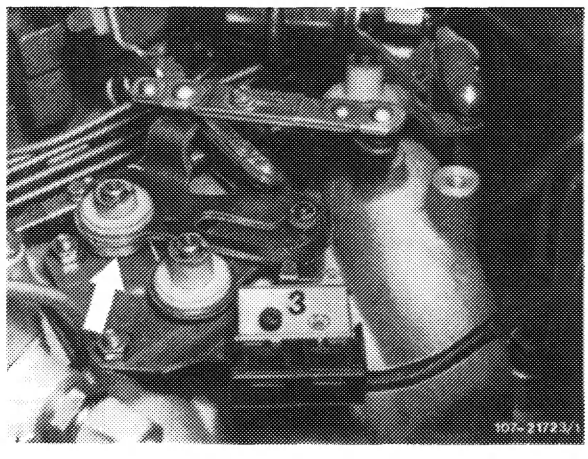
1 Electronic fuel pump relay
5 Switchover valve
6 Microswitch
b Tachometer transmitter

Testing microswitch (3)

Pull off coupler on microswitch. Connect ohmmeter.

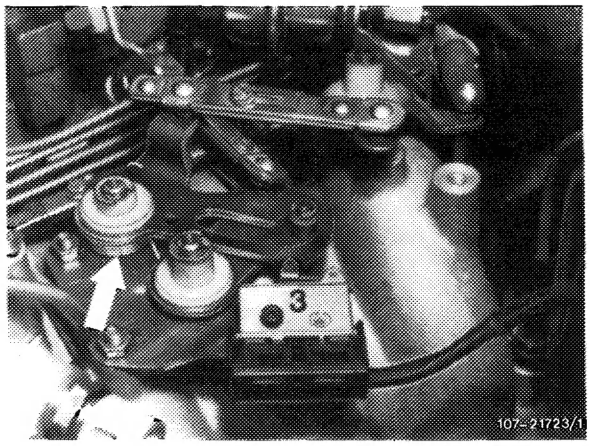
Readout: At idle 0 Ω
When accelerating ∞ Ω.

Check adjustment of slotted lever, if required. Roller in slotted lever should rest free of tension against final stop. Check rotary spring (arrow), if required.

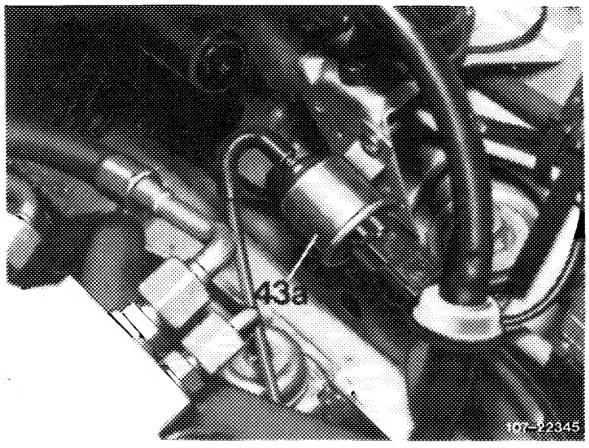


Testing switchover valve (43a)

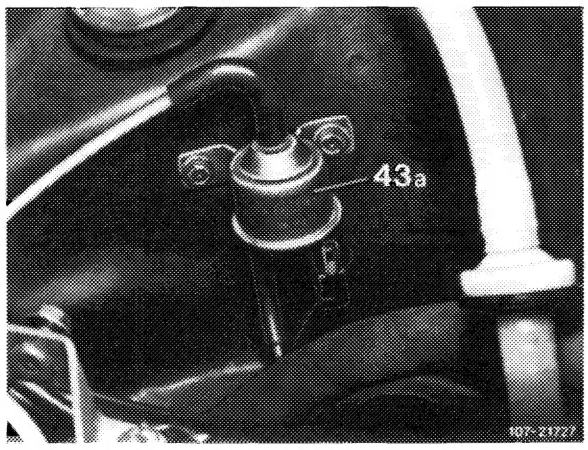
Pull coupler from microswitch (3) and connect cable, color black/green, to battery voltage, engine should now stop. If engine does not stop, test line with an ohmmeter for passage or replace switchover valve (43a).



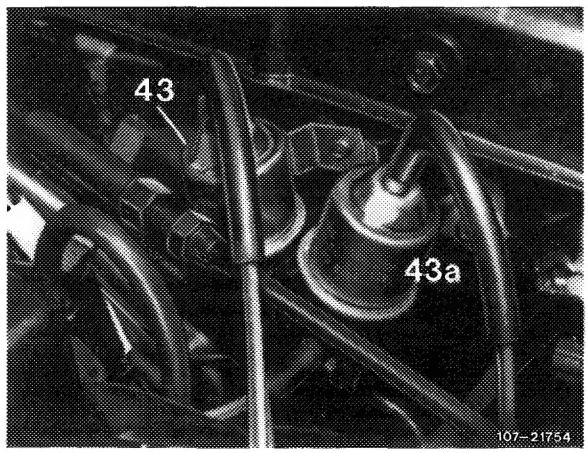
Layout switchover valves (43a)



Model 107



Model 123

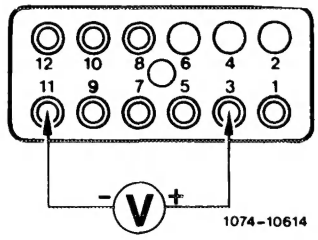


Model 126
43 Switchover valve air conditioning (identifiaction: green cap)
43a Switchover valve decel shutoff (identifiaction: gray cap)

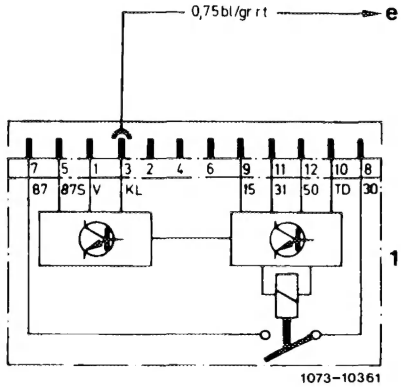
3 Check cutting-in impulse of refrigerant compressor. For this purpose, run engine at idle. Connect positive cable (red) of voltmeter to jack 3 (terminal KL) and negative cable (black) to jack 11 (terminal 31).

When switching-on refrigerant compressor, battery voltage should be available.

If no voltage is available, test line blue/gray/red (terminal KL) to refrigerant compressor for interruption.



Note: With air-conditioning system switched on, voltage should be available at jack 3 (terminal KL) of fuel pump relay (refer to wiring diagram group 83 air-conditioning system).



1 Fuel pump relay
e Refrigerant compressor

Test speed-dependent control

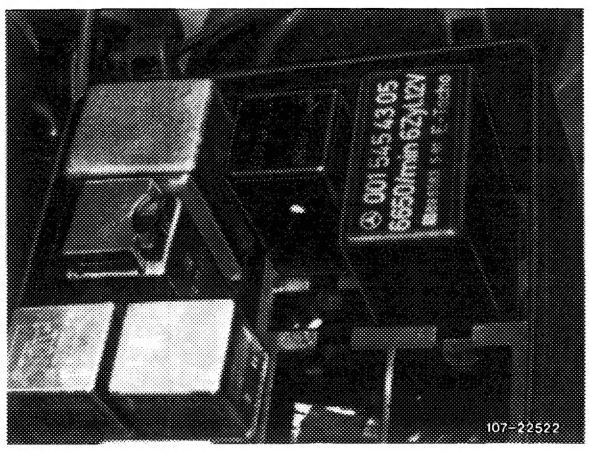
4 Pull coupler from switchover valve (43a) and connect voltmeter to coupler. Operate on dynamometer or on road in 4th gear, or in driving position "D" at 70 km/h. Release accelerator pedal, battery voltage should be available. If there is no voltage, test impulse transmitter on tachometer or replace fuel pump relay, if required.

There should be no voltage below approx. 1100/min or approx. 1300/min with refrigerant compressor.

Testing impulse transmitter on tachometer

5 A prerequisite for a signal is that the speed indicator is operational.

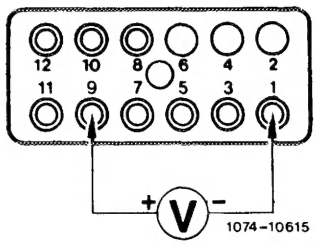
Test impulses for decel shutoff. Pull off fuel pump relay for this purpose.



Electronic tachometer

a) Testing output signal

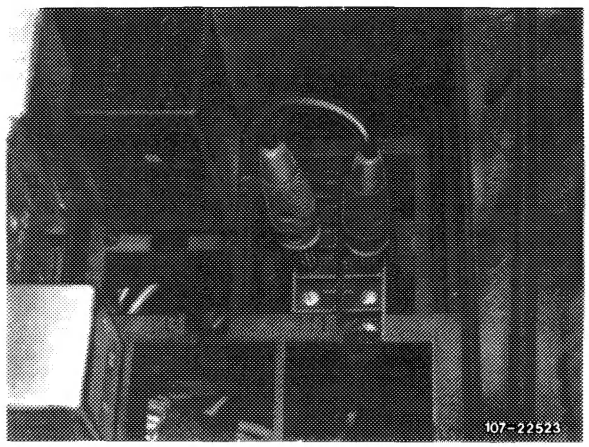
Connect digital multimeter (position V = DC). For this purpose, connect positive cable (red) to jack 9 (terminal 15), grounding cable (black) to jack 1 (terminal V).



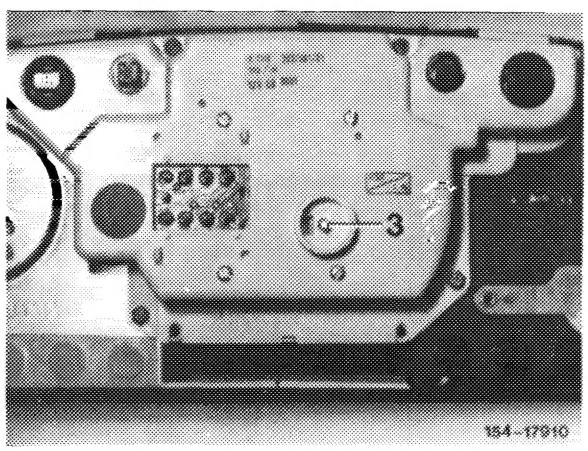
Attention!
Perform measurements in position V = only. Wrong handling will damage tachometer electronics.

Bridge jack 7 (terminal 87) and jack 8 (terminal 30), fuel pump will then run.

Operate on dynamometer or on road in 4th gear or in driving position "D" at 70 km/h. Readout should indicate $\geqq$ 1 Volt DC (in position V =). Measuring value increases with increasing vehicle speed.



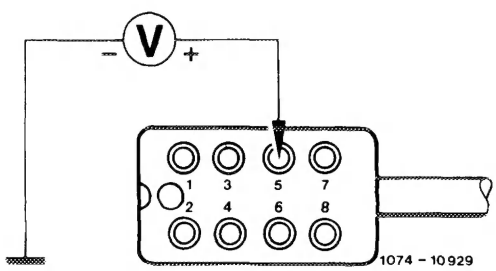
If there is no readout, test cable from jack 1 (terminal V) to impulse transmitter connection (3) by means of an ohmmeter for passage.



Model 107, 126
3 Impulse transmitter connection

Test speed readout of tachometer.

If there is no readout, remove instrument cluster. Remove 8-pole plug on tachometer.



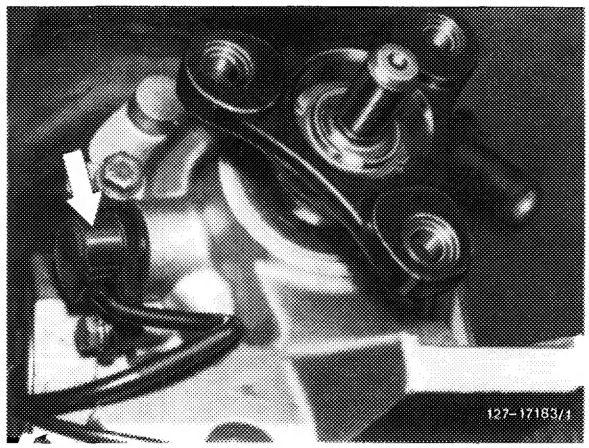
b) Testing input signal

Connect digital multimeter with means for measuring AC (in position V ~ or V $\wedge$) to jack 5.

Red = positive (jack 5)
Black = vehicle ground

Operate on dynamometer or on road in 4th gear or in driving position "D" at 70 km/h. Readout ≧ should amount to 1 Volt AC (in position V ~). Measuring value increases with increasing driving speed.

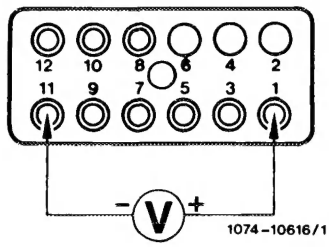
If there is no readout, test cable for passage by means of an ohmmeter or replace cable or impulse transmitter (arrow) in transmission.



Impulse transmitter automatic transmission

Mechanical tachomater

Connect digital multimeter with means for measuring AC (in position V ~or⎓). For this purpose, connect position cable (red) to jack 1 (terminal V), grounding cable (black) to jack 11 (terminal 31).



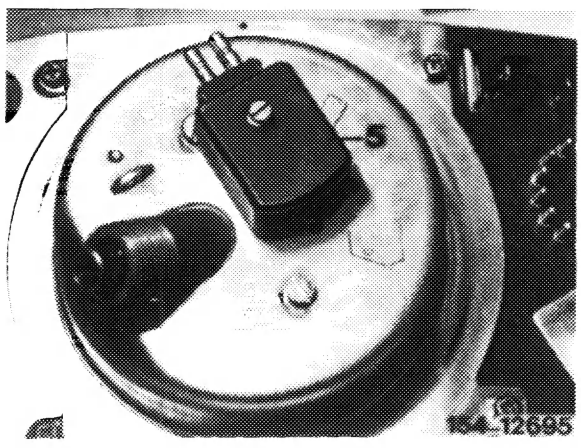
Bridge jack 7 (terminal 87) and jack 8 (terminal 30), fuel pump will now run.

Operate on dynamometer or on road in 4th gear or in driving position "D" at approx. 70 km/h. Readout ≧ should amount to 1 Volt AC (in position V ~). Measuring value increases with increasing vehicle speed. speed.

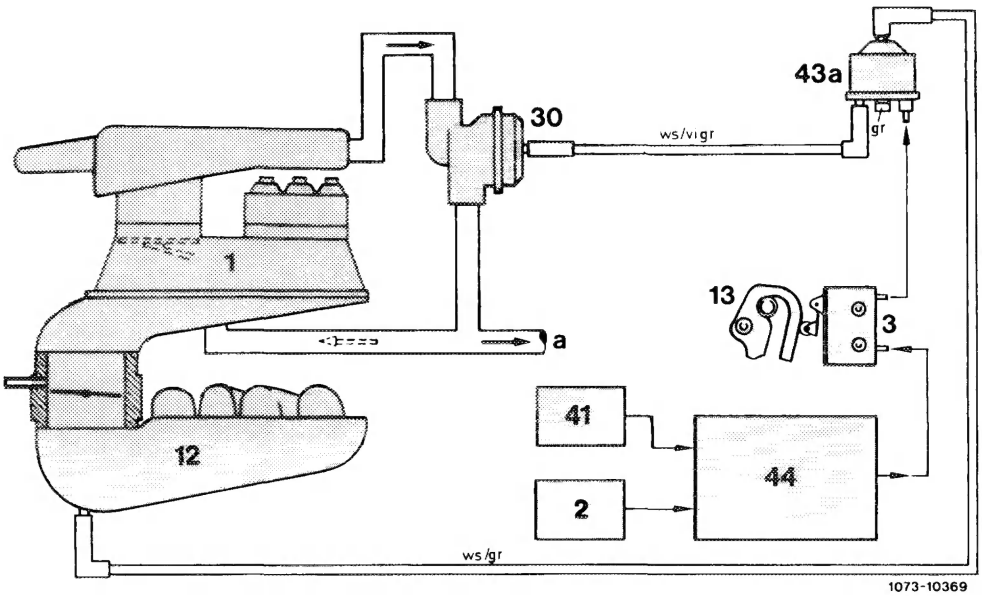
If there is no readout, test cable for passage by means of an ohmmeter. Replace cable or impulse transmitter (5) on tachometer, if required.

Test resistance of impulse transmitter (5). Nominal = 650 – 1370 Ω.

If the nominal value is exceeded or not attained, replace impulse transmitter.



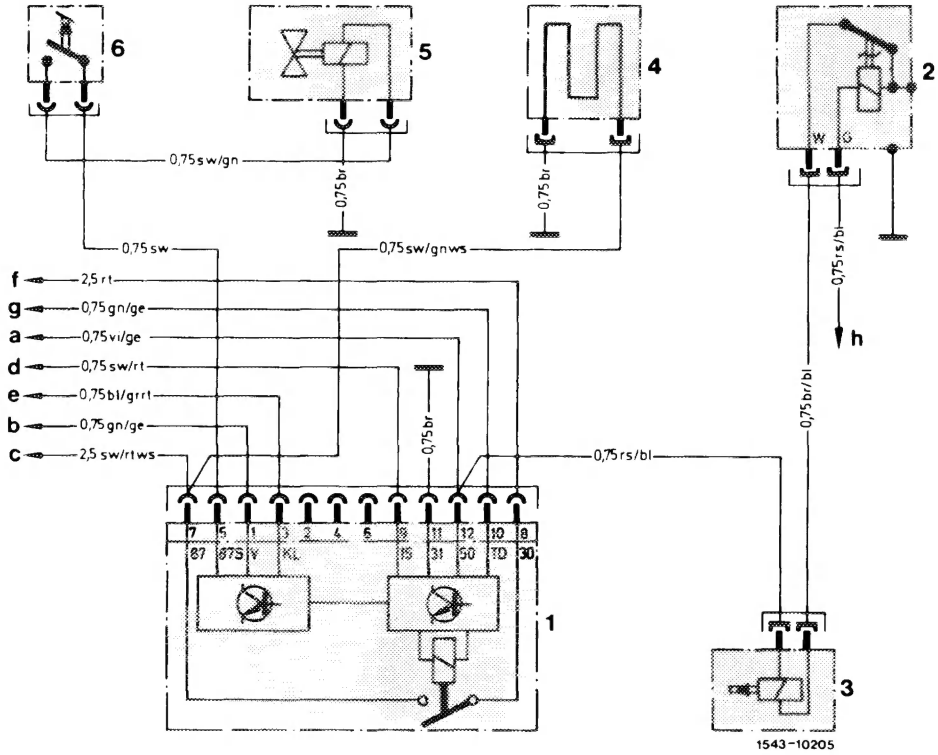
Model 123
5 Impulse transmitter



Function diagram decel shutoff

1	Mixture controller	41	Impulse transmitter mechanical tachometer	Color code
2	Transistorized switching unit			gr = gray
3	Microswitch	43a	Switchover valve decel shutoff	vi = purple
12	Intake manifold			ws = white
13	Slotted lever	44	Fuel pump relay	
30	Decel shutoff valve	a	To idle speed air distributor	

Note: For operation of decel shutoff and idle speed stabilization refer to 07.3–500.

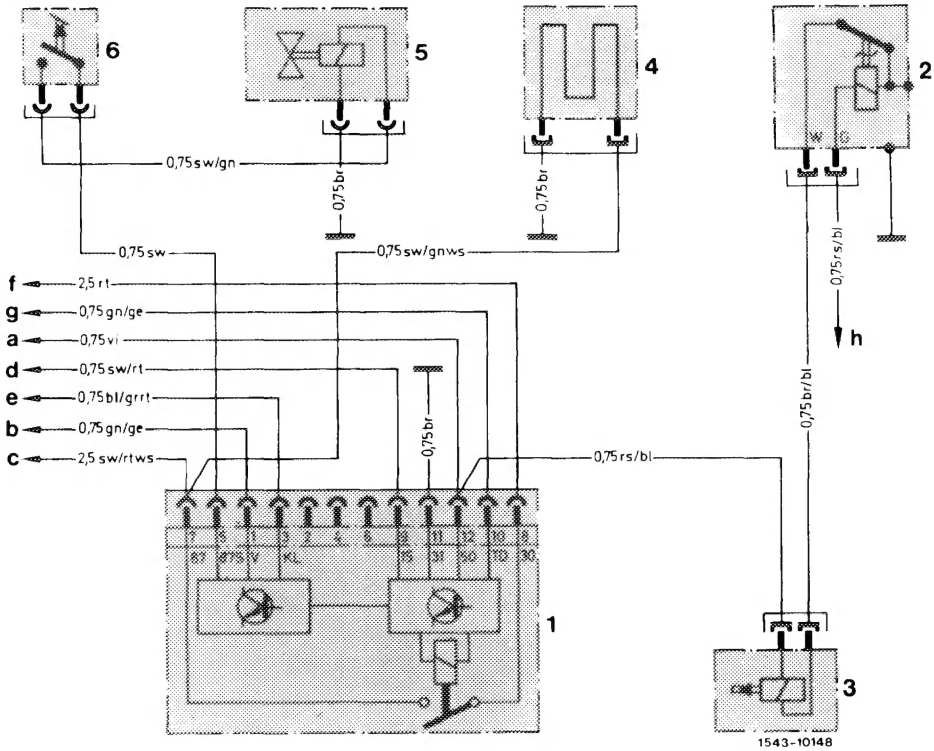


Wiring diagram decel shutoff model 123

1 Fuel pump relay
2 Thermo time switch
3 Cold starting valve
4 Warm-up compensator
5 Switchover valve
6 Microswitch

a To output starter lockout and backup lamp switch
b Transmitter mechanical tachometer
c Fuel pump
d Fuse 12 terminal 15 access
e Refrigerant compressor
f Cable connector engine terminal 30
g Cable connector terminal TD
h Cable connector engine terminal 50

Color code
bl = blue
br = brown
ge = yellow
gn = green
gr = gray
rs = pink
rt = red
sw = black
vi = purple
ws = white

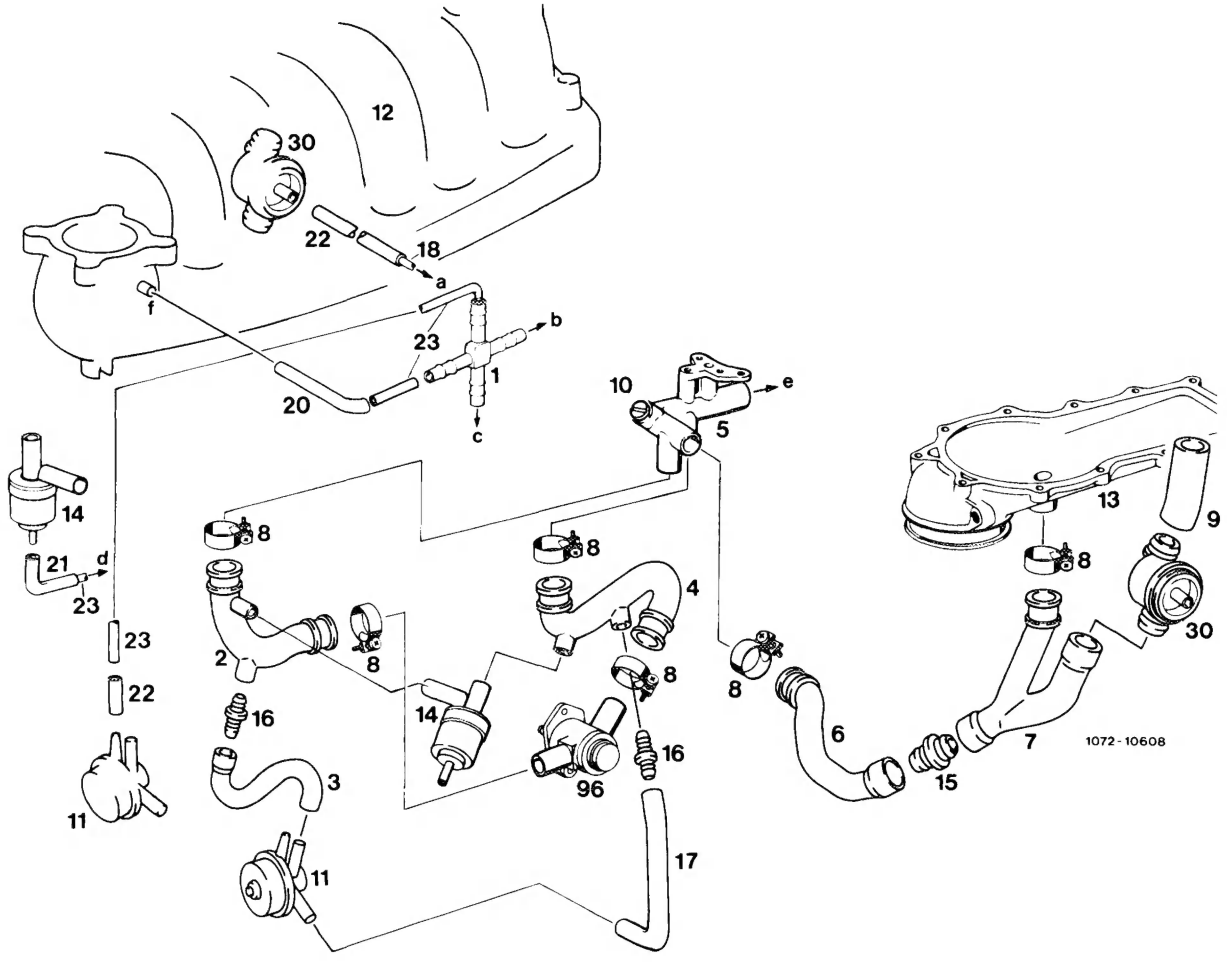


Wiring diagram decel shutoff model 107, 126

1 Fuel pump relay
2 Thermo time switch
3 Cold starting valve
4 Warm-up compensator
5 Switchover valve
6 Microswitch

a Cable connector engine terminal 50
b Transmitter electronic tachometer
c Fuel pump
d Fuse 14 terminal 15 access
e Refrigerant compressor
f Cable connector terminal 30
g Cable connector terminal TD
h Cable connector engine terminal 50

Color code
bl = blue
br = brown
ge = yellow
gn = green
gr = gray
rs = pink
rt = red
sw = black
vi = purple
ws = white



Decel shutoff and idle speed stabilization

1 Multiple distributor
2 Contour hose
3 Contour hose
4 Contour hose
5 Idle speed air distributor
6 Contour hose
7 Contour hose
8 Hose clip
9 Contour hose for air filter
10 Idle speed air screw
11 Decel circulating air valve
12 Intake manifold
13 Air guide housing
14 Bypass valve air conditioning
15 Plug connection
16 Plug connection
17 Contour hose
20 Contour hose
21 Contour hose
22 Connecting hose
23 Vacuum line
30 Decel shutoff valve
96 Auxiliary air valve

a To switchover valve decel shutoff
b To switchover valve decel shutoff
c To switchover valve air conditioning
d To switchover valve air conditioning
e Connection idle speed air
f Vacuum connection intake manifold